

Application No. 09/963,330

Reply to Office Action

*AMENDMENTS TO THE CLAIMS*

Please cancel, without prejudice, claims 124, 125, 144-146, and 150; amend claims 120-123 and 152; and add claims 153-159, as indicated below in the listing of claims.

Listing of Claims

Claims 1-119 (canceled).

120. (Currently Amended) A handle for a tool configured for an assigned group of hands having an average hand width, the handle comprising:

a body having a proximal end, a distal end, and a longitudinal axis extending between the ends;

the body having a finger section and a palm section, the finger section for engagement with the fingers of a user, the finger section extending along the longitudinal axis, and the palm section for engagement with the palm of the user, the palm section extending along the longitudinal axis and substantially opposing the finger section;

wherein the palm section includes a distal part adjacent the distal end, a proximal part adjacent the proximal end, and a center part that lies between the distal part and the proximal part, wherein the center part has a convex portion with a curvature forming a three-dimensional surface that bulges outwardly in two directions substantially perpendicular to each other relative to a two-dimensional Cartesian coordinate system orientated perpendicular to the longitudinal axis with maxima defined by distance vectors that are substantially perpendicular to each other relative to a the two-dimensional Cartesian coordinate system in sectional planes along the longitudinal axis ~~orientated perpendicular to the longitudinal axis~~, the point at maximum distance from the longitudinal axis is disposed approximately in the center of said surface, the distal part of the palm section includes a first concave portion and the proximal part of the palm section includes a second concave portion, the first concave portion and the convex portion of the center part defining a first turning point, the second concave portion and the convex portion of the center part defining a

Application No. 09/963,330

Reply to Office Action

second turning point, the convex portion having a length, measured between the first and second turning points along a line parallel to said longitudinal axis, ~~of between 45% and 55% of the average hand width of said assigned group of hands~~ the center part being asymmetrical relative to a first plane including said maximum point and said longitudinal axis and a second plane that is perpendicular to the first plane; and wherein the finger section includes a curvature forming a three-dimensional surface with radii of curvature defined by sectional planes along the longitudinal axis over the length of the convex portion of the palm section, the radii of curvature of the finger section being greater than the corresponding radii of curvature of the palm section.

121. (Currently Amended) The handle according to claim 120 wherein the curvature of the surface of the convex portion of the palm section along the longitudinal axis has a palm radius of curvature between 60 and 120 mm at said maximum point.

122. (Currently Amended) The handle according to claim 120 wherein the proximal part has a surface contour that continuously decreases from the center part to the proximal end ~~wherein the length measured between the maximum of the center part and the proximal end of the proximal part amounts to between 50% and 55% of the average hand width of said assigned group of hands.~~

123. (Currently Amended) The handle according to claim 120 wherein the proximal part has a continuously concave surface contour from the center part to the proximal end ~~wherein a length measured between the maximum of the center part and a minimum of the distal part amounts to between 43% and 56% of the average hand width of said assigned group of hands.~~

Claims 124 and 125 (Canceled).

Application No. 09/963,330

Reply to Office Action

126. (Previously Presented) The handle according to claim 120 wherein the surface of the curvature contains a generatrix that extends from the distal part to the proximal part, with said generatrix representing the geometric location of all points that have the greatest distance from the longitudinal axis in the center part in all cross sections along the longitudinal axis.

127. (Previously Presented) The handle according to claim 126 wherein the generatrix is a plane curve.

128. (Previously Presented) The handle according to claim 126 wherein the generatrix is a three-dimensional curve.

129. (Previously Presented) The handle according to claim 128 wherein the points of the three-dimensional curve partially lie on one side of a plane that extends perpendicular to a central plane and includes the longitudinal axis with part of said points lying on the other side of said central plane.

130. (Previously Presented) The handle according to claim 120 wherein all generatrices of the surface of the curvature have a convex progression.

131. (Previously Presented) The handle according to claim 120 wherein cross sections taken along the longitudinal axis are asymmetric relative to a plane extending along the longitudinal axis and including the maximum point of the center part and the longitudinal axis.

132. (Previously Presented) The handle according to claim 120 wherein the handle has essentially an egg-shaped or oval cross section contour.

133. (Previously Presented) The handle according to claim 120 wherein the body is one piece, and the palm section is integrally connected to the finger section by an inner section.

Application No. 09/963,330

Reply to Office Action

134. (Previously Presented) The handle according to claim 120 wherein the distal part includes a substantially planar thumb support surface.

135. (Previously Presented) The handle according to claim 120 wherein the body comprises two pieces, wherein the palm section and the finger section respectively form at least part of first and second handle parts, and wherein the first and second handle parts are separated by an intermediate space, the first and second handle parts being adapted for pliers.

136. (Previously Presented) The handle according to claim 135 wherein the palm section and the finger section are configured in a substantially laterally-reversed symmetric fashion about a central plane.

137. (Previously Presented) The handle according to claim 135 wherein the palm section and the finger section are configured in a substantially laterally-reversed symmetric fashion about a central plane.

138. (Previously Presented) The handle according to claim 135 wherein the body has continuous cross sections which are oval, or egg-shaped cross sections if imaginary surfaces along the longitudinal axis which connect lateral regions of the palm and finger sections are included.

139. (Previously Presented) The handle according to claim 135 wherein the finger section is substantially cylindrical.

140. (Previously Presented) The handle according to claim 120 wherein the body is substantially continuous and smooth.

141. (Previously Presented) The handle according to claim 120 wherein the handle has an asymmetric shape for a right-handed user.

142. (Previously Presented) The handle according to claim 120 wherein the handle has an asymmetric shape for a left-handed user.

Application No. 09/963,330

Reply to Office Action

143. (Previously Presented) The handle according to claim 141 wherein the left-handed asymmetric shape is laterally reversed with respect to a right-handed asymmetric shape for a right-handed user.

Claims 144-146 (Canceled).

147. (Previously Presented) The handle according to claim 120 wherein a length measured between the maximum of the center part and a minimum of the distal part is 35 to 55 mm long.

148. (Previously Presented) The handle according to claim 120 wherein a length measured between the maximum of the center part and a minimum or central point of the proximal part is about 30 to 55 mm long.

149. (Previously Presented) A tool comprising a functional part and a handle according to claim 120, the functional part being mountable to the handle.

Claim 150 (Canceled).

151. (Previously Presented) A handle set comprising a plurality of handles, each handle being in accordance with claim 120.

152. (Currently Amended) The handle set according to claim 151 wherein ~~at least two handles are configured for a different assigned group of hands~~ the length of the convex portion of the palm section of at least one of the handles is different than that of at least one other handle.

153. (New) The handle set according to claim 151 wherein each handle has an asymmetric shape for a right-handed user.

154. (New) The handle set according to claim 151 wherein each handle has an asymmetric shape for a left-handed user.

Application No. 09/963,330

Reply to Office Action

155. (New) A tool set comprising a plurality of tools, each tool including a functional part and a handle according to claim 120, the functional part being mounted to the handle.

156. (New) The tool set according to claim 155 wherein the length of the convex portion of the palm section of at least one of the handles is different than that of at least one other handle.

157. (New) The tool set according to claim 155 wherein each functional part is the same.

158. (New) The tool set according to claim 155 wherein each handle has an asymmetric shape for a right-handed user.

159. (New) The tool set according to claim 155 wherein each handle has an asymmetric shape for a left-handed user.